

DISTRIBUTION OF OAK
WILT IN CENTRAL TEXAS

by

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INTRODUCTION

Oak wilt, caused by the fungus Ceratocystis fagacearum Bretz (Hunt), is the most serious disease of oak in the United States. Red oaks are most severely affected, although other species also sustain damage. Mortality of live oak (Quercus virginiana Mill.) was reported in Texas as early as 1934 (Tabenhaus 1934, Dunlap and Harrison 1949). Mortality has been attributed to live oak decline caused by Cephalosporium diospyri Crandall, (Halliwell 1966, Van Arsdel and Halliwell 1970, Van Arsdel et al. 1975) and more recently to oak wilt (Lewis, 1977; Lewis and Oliveria, 1979).

Due to the large losses of oak occurring in central Texas, and the confusing nature of the problem, a cooperative special project was initiated through USDA, Forest Service, State and Private Forestry, Forest Pest Management, involving the Texas Forest Service, Texas A&M University and the Texas Agricultural Experiment Station. Objectives are to determine the amount and distribution of oak mortality in central Texas and to determine the incidence and severity of the various oak diseases.

Since oak wilt is potentially a very destructive disease and movement of infected wood may aid its spread, the present distribution of the disease is of prime interest. Baseline distribution information was also needed before field work on the cooperative project was initiated. This report presents the current, known distribution of oak wilt in Texas.

METHODS

A written request was made to all scientists known to have made oak wilt isolations in Texas or with information about such isolations. They were asked to report the counties in which C. fagacearum had been recovered from oak tissue. Cooperators were also asked to pass on the request to anyone whom they knew had made or had information about isolations. This information was combined with other available data to produce a new distribution map.

RESULTS/DISCUSSION

C. fagacearum was first reported in Texas in 1961 from Dallas County (Dooling, 1961). This location was approximately 200 miles south of the nearest known occurrence of oak wilt in Arkansas. Since that time other reports increased the number of counties where the presence of the oak wilt fungus was confirmed to nine as presented in 1980 (USDA Forest Service 1980). The nine counties were: Bandera, Blanco, Dallas, Fayette, Gillespie, Kerr, McLennan, Midland and Travis (Fig. 1).

The number of confirmed infested counties has doubled to 18 as of May, 1982. Counties added were: Bastrop, Bexar, Bosque, Erath, Hamilton, Kendall, Lavaca, Tarrant, and Williamson (Fig. 2). It is anticipated that ground survey work during the cooperative project in central Texas will expand this list greatly. Isolations since 1961 were made by: Dr. D. Appel, Texas A&M University; Mr. O. Dooling, U.S. Forest Service Research; Dr. R. Halliwell, Texas A&M University; Dr. W. Horne, Texas A&M Extension Service; Dr. R. Lewis, U.S. Forest Service Research; Dr. H. Kaufman, Texas A&M University; and Ms. Ruth Tabor, Texas A&M University. Others may have been inadvertently omitted.

LITERATURE CITED

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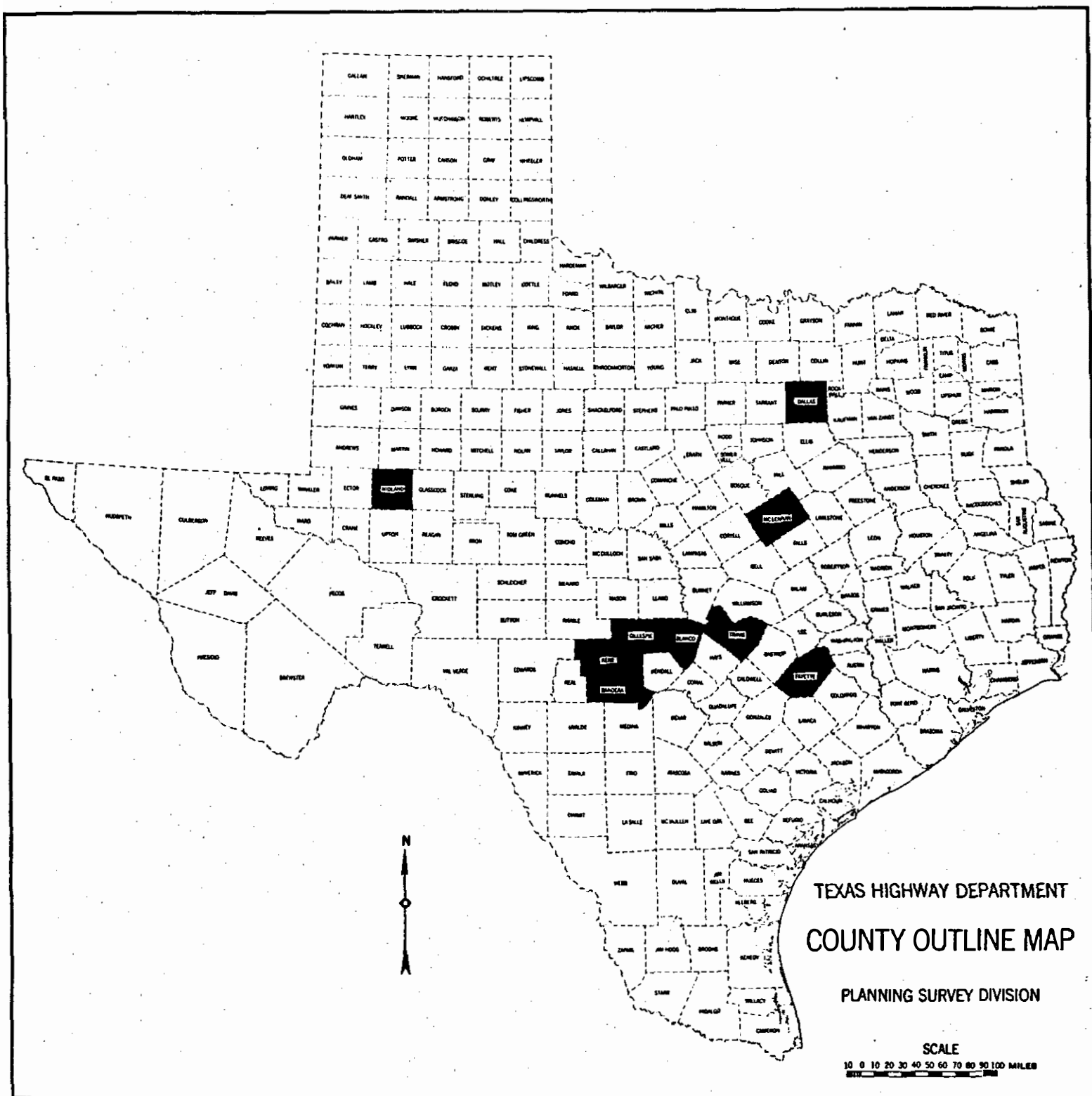


Figure 1. Oak wilt distribution in Texas, May, 1980.

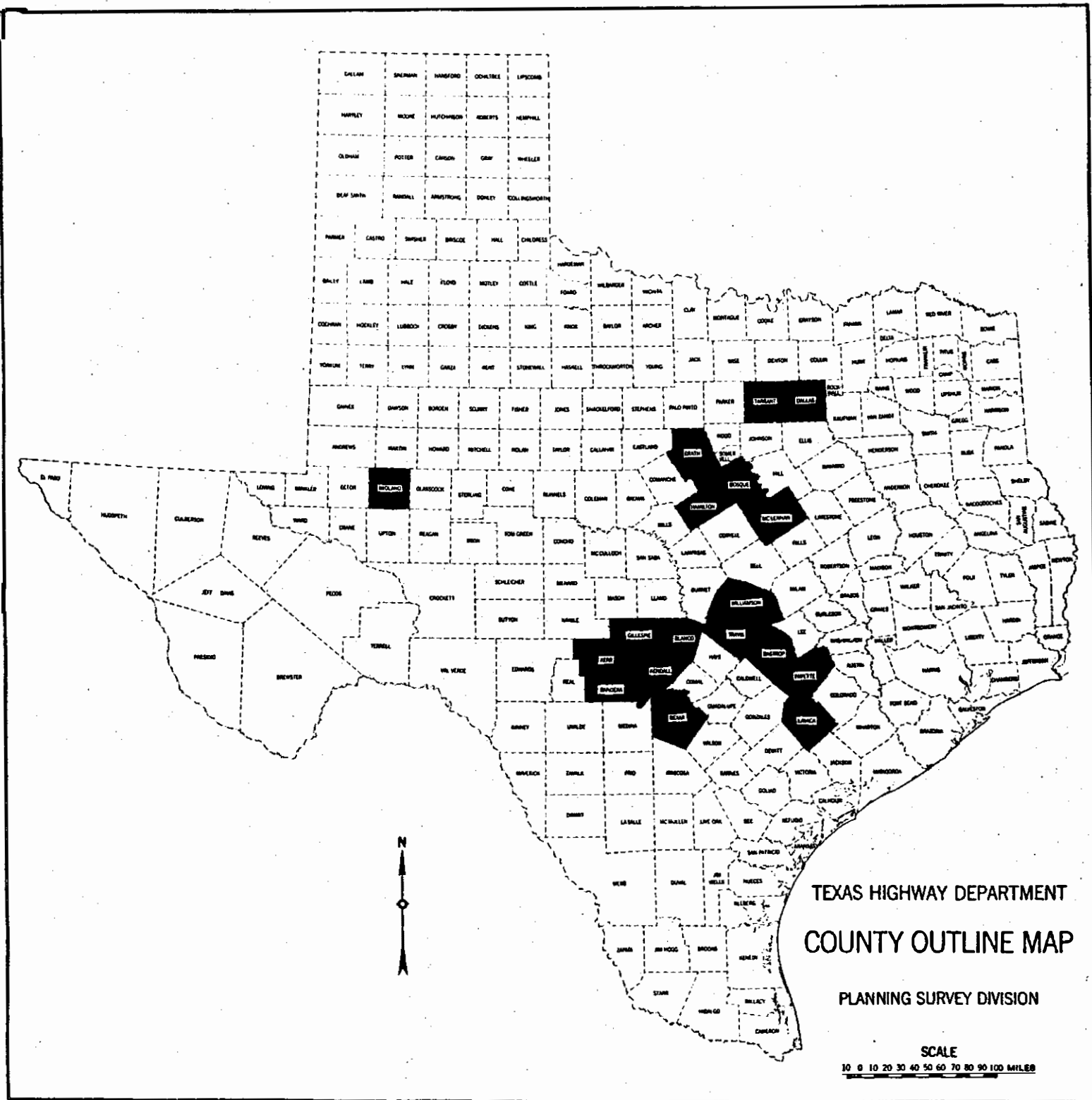


Figure 2. Oak wilt distribution in Texas, May, 1982.